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## (54) THERMAL SPRAY COATING

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain an oxide ceramic thermal spray coating of a low porosity in an as-thermally sprayed state without the execution of a sealing treatment and remelting treatment by adopting the constitution having a phase of deposited particles of high melting oxide ceramics which has a m.p. of a specific value or above and a phase of silicate ceramics which is interposed between the deposited particles and has a solidus line temp. at specific value or below.

**SOLUTION:** The particles 2 of the high melting oxide ceramics, such as  $Al_2O_3$ , having the m.p. above  $1800^{\circ}C$  are deposited on the surface of a base metal 1 and the regions 3a of the greater part of gaps 3 among the particles 2 are sealed by the silicate ceramics 4 which functions as a heat resistant binder and have a solidus line temp. of  $\leq 1700^{\circ}C$ . The thermal spray coating 7 of the low porosity in a form in which only the regions 3b exclusive of the regions 3a are not sealed and left as micropores 5 is obtd. as the as-thermally sprayed state. The examples of the silicate ceramics include an  $Al_2O_3-SiO_2$  system,  $MgO-SiO_2$  system and  $ZrO_2-SiO_2$  system.



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